

December 2008 Update

Broderick Wood Products Superfund Site

Denver, Colorado
(Review Date: 9/25/06)

Brief Site History: The 64-acre Broderick Wood Products Site, in Adams County, Colorado is a former treatment plant that used creosote and pentachlorophenol (PCP) to treat wood products. In 1983 EPA detected PCP in soil and groundwater samples taken on and off the Broderick Wood Products property. It was placed on the National Priorities List in September 1984.

Cleanup Activities Completed: Construction was completed for the site in 1996. The following cleanup activities were completed either by EPA or the Potentially Responsible Party (PRP) Broderick Investment Company (BIC):

- Removal of sludge from the two former impoundments to a reclamation facility 1993.
- Construction of a land-treatment unit (LTU) for contaminated soils 1994.
- Construction of a treatment plant for contaminated groundwater 1994 (modified 1996).
- Construction of a bioventing system to treat the subsurface area 1996.

Current Status: Current Operation & Maintenance activities conducted by BIC include operating the groundwater treatment plant, operating the LTU and monitoring groundwater. Most of the site has been remediated and is ready for use. Broderick Investment Company, Potentially Responsible Party and owner of the site, recently entered into a contract to sell most of the site to a party that is proposing to sell two-acre parcels for development consistent with current zoning.

The Union Pacific Railroad completed the construction of a rail line embankment across the site in 2004. This massive project required modifications to the original remedy including the construction of two, Soil-Bentonite Cutoff Walls (SBCW) and a West Boundary Cutoff Drain Line, the modification of bio-venting wells for use after embankment construction, the extension of product recovery trenches and the relocation of decontamination facilities which were upgraded to facilitate post-construction operation.

Summary of Protectiveness: The remedy as designed currently protects human health and the environment because the offsite migration of shallow groundwater has been controlled with a cutoff trench and wall on the north boundary. A non-aqueous phase liquid recovery system, bioventing system and water treatment plant are all successfully operating. While the remedial actions for the site are currently protective of human health and the environment, the detection of contaminants in the deep Denver Formation and the Arapahoe Formation, not addressed by the current remedy, indicate that the remedy at the site may not be protective in the future.

Issues Impacting Protectiveness: No early indicators of potential remedy failure were noted during the review. However, it should be noted that success of the overall remedy will critically depend on removing most if not all of the light nonaqueous phase, liquids (i.e. oil) in the former impoundment area and implementation of long-term institutional controls via the environmental covenant. Issues were noted during this five-year review of the site. The following table summarizes the status of the follow-up actions addressing these issues.

**Broderick Wood Products Superfund Site
Five-Year Review 2008 Update Table
(Review Date: 9/25/06)**

Issues	Recommendations/ Follow-up Actions	Follow-up Actions (Status/ Due Date)	Status of Follow-up Actions 12/08	Responsible Party
1. In 2005, the Package Water Treatment System (PWTS) had a utilization rate of only 70%. Increasing the utilization rate of the PWTS would shorten the time required for long-term groundwater remediation	This may be facilitated by improved planning for granular activated carbon replacement and by a preventative maintenance and inspection program to assist in identifying and repairing/replacing equipment or piping that may be near failure before shutting down the PWTS is necessary.	9/30/09	Discussions on this issue are ongoing and directly related to amending the O&M Plan (Issue #9).	BIC
2. For the former impoundment area, effective/efficient water management procedures to maximize Light Nonaqueous Phase Liquids (LNAPL) recovery have not been developed, documented nor utilized.	From this point forward, dewatering and re-injection rates should be recorded on a monthly basis to evaluate their effectiveness in recovering LNAPL. Trench well points water and LNAPL level measurements should be evaluated regularly to determine if a series of mounds and depressions have been established.	9/30/09	Discussions on this issue are ongoing and directly related to amending the O&M Plan (Issue #9).	BIC

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3. With the completion of soil treatment, the LTU's have not been capped, closed and maintained in accordance with the OU2 ROD and RCRA ARARs.	The LTUs will need to be capped, closed and maintained in accordance with the OU2 ROD and RCRA ARARs.	9/30/09	Discussions on this issue are ongoing and directly related to amending the O&M Plan (Issue #9).	BIC
4. The performance monitoring scheme for the West SBCW is currently inadequate and will need to be reevaluated.	A well will need to be installed in the drainage ditch west of the West SBCW and be included in the groundwater monitoring program for the site. If there is little or no groundwater leakage under or through the West SBCW, contaminant concentrations should show a downward trend over time. The well could also be used to address a groundwater issue associated with issue #5.	9/30/08	Considered by EPA/BIC and Not Implemented on 9/30/08.	BIC
5. Contamination in the former catchment area, west of the West SBCW, is recurrent and will need to be reevaluated.	The former catchment area and the West SBCW should be closely monitored for two years to accumulate enough data to adequately evaluate the contamination in the immediate area and the performance of the West SBCW. The former catchment area should be sampled on a semi-annual basis with the addition of a new well.	9/30/08	Considered by EPA/BIC and Not Implemented on 9/30/08.	BIC

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6. Fisher Ditch water has not been sampled since the 2001 Report. Monitoring results are not available to indicate contaminant levels in the ditch and if the existing ARARs are being met.	Fisher Ditch will need to be sampled. Work and sampling plans will need to be developed prior to sampling. If the results do not meet the existing ARARs, a further evaluation will need to be conducted to determine if the results fall within the acceptable risk range.	9/30/09	This issue is currently being addressed.	BIC
7. The potential pathway from groundwater (and soils) to indoor air has never been evaluated.	The indoor air pathway should be evaluated given the presence of benzene, toluene, ethyl benzene, and xylene (BTEX) and chlorinated volatile organic compounds at the site.	9/30/08	Considered by EPA/BIC and Not Implemented on 9/30/08.	BIC
8. BIC's contour map in the 2006 O&M Report may not accurately reflect the potentiometric surface of the surficial aquifer.	A better and more appropriate contouring program for the surficial aquifer will be needed.	9/30/09	This issue is currently being addressed.	BIC
9. The O&M Plan and reports do not accurately reflect current conditions especially given recent remedy modifications.	The O&M Plan needs to be thoroughly revised to accurately/effectively reflect current conditions. In turn, the format and content of subsequent O&M Reports will need to be revised to reflect the updated O&M Plan.	9/30/09	Discussions to update the O&M Plan are ongoing. Completion of revisions to O&M is planned for 9/30/09.	BIC
10. Since the 2001 Report, an updated survey of potential off-site users of well water has not been conducted.	The survey will need to be conducted under an approved work plan.	9/30/09	This issue is currently being addressed.	BIC